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Observations on Cancrum Oris, or Sloughing Sore Mouth of Children. By W. T. Webb, M. D., of Alabama, Senior Resident Physician to the Philadelphia Hospital, Blockley.

This disease came under my observation in 1838, at which time I was resident physician in the Children's Asylum. It followed a very severe epidemic of rubeola which prevailed in that institution, commencing in May, and terminating in August. This disease, which is sometimes (and with more propriety) termed gangrenous sore mouth, is seldom witnessed; when it does occur, it is most frequently seen in charitable institutions, where a large number of children are congregated together. We do not find it, however, entirely confined to such asylums. Dr. B. H. Coates, in vol. ii. of the North American Medical and Surgical Journal, mentions that this disease at one time prevailed in New Jersey. It was there considered as a sequela of intermittent and remittent fevers. It seldom occurred except in marshy districts, and among the children of the poor. A few cases have been treated by some of the physicians of Philadelphia. We witnessed twenty-three cases in the asylum. Most of the children which were the subjects of gangrenous sore mouth, had been previously attacked with rubeola.

At Paris the disease is quite common at the Children's Hospital, and there generally occurs after an attack of measles; it is by no means confined to this disease, but may be said, in general terms, to attack any children of enfeebled constitutions; although it is certainly true, that measles exercises a peculiar influence in favouring its development. Children are at times brought into the hospital from the city of Paris, but the great majority of cases undoubtedly originate within the building.

Description of the disease.—This disease generally commences at the edges of the gums opposite the incisors of the inferior maxillary bone. The first change which we could perceive in the gums, was a whiteness much resembling the appearance which healthy gums would assume immediately after a very superficial application of the nitrate of silver in substance. They also became quite spongy; and, by closely inspecting the gums, we would find them separated from the teeth. At this stage it now closely resembled ptyalism; indeed, so close is the resemblance, that it is almost impossible to distinguish the one from the other; but in this disease there was not that great increased secretion of saliva which almost always accompanies salivation. Dr. Coates tells us, that Dr. Parrish for several years in his private lectures noticed a stage of this disease, under the name of "*a disease resembling the effects of mercury.*"

If the disease be not arrested, ulceration commences and extends along the gums, until the whole jaw becomes more or less incurably affected. Not unfrequently, both the superior and inferior maxillary bones become involved. In two cases, the ulceration commenced simultaneously in both. As the disease advanced, the cheeks or lips began to swell, until they became tense and hard, white and glossy. "The great distention of the skin seems to empty the cutaneous vessels, giving to the part a smooth, polished appearance, very much resembling the effects of severe salivation.

"The gums are now gradually removed by ulceration,—the teeth become loose, and if not removed, fall out spontaneously, denuded of their periosteal covering. By some it is supposed, that the periosteum is the part which is the most peculiarly liable to injury and death, and that it is in this membrane that the disease not unfrequently begins; but this is by no means certain. The gums and inside of the cheeks soon assume a gangrenous appearance, the breath also becomes extremely fœtid. After reaching this stage, the exterior of the cheek, or the part where tumefaction existed, presents a dark purple colour; and in many cases vesicles form, from one-fourth to one inch in diameter, filled with a dark coloured fluid, which soon burst and discharge, and in a very short time are followed by sloughs." As soon as the external gangrene has reached the level of the bony socket, and frequently at an earlier period, the adjacent portions of the alveoli are found deprived of life, forming a necrosis. The death of the periosteum in the socket, at least that of the fang of the tooth, precedes by some interval of time, that of any portion of the bone itself.

The discharge from the gangrenous surface was very acrid, producing excoriations of the cheeks, lips, tongue, or any other part with which it came in contact.

In the early stages of gangrenous sore mouth, it seems to have but little effect on the general health of the patient. The pulse remains natural, skin cool, appetite good, and in many cases but little pain was complained of, except in the application of the remedies, which generally were of a highly stimulating character. In the last stages of this disease, it was attended with much constitutional disturbance. The pulse became quick and small, skin hot and dry, appetite much impaired, and, in some cases, complete anorexia. The patient frequently became extremely emaciated, colliquative diarrhœa now set in, and death closed the scene. We cannot better illustrate this disease, than by laying before our readers the notes of a very interesting case which Dr. Halson, of Virginia, my successor as resi-

dent physician in the asylum, has kindly furnished me.

Case.—John Smith, æt. six years, was convalescent from pneumonia. On the 1st of March, a white border was discovered around the gums, opposite the incisors of the inferior maxillary bone. The gums were spongy, and somewhat separated from the teeth; they are not disposed to hæmorrhage; no increase of the salivary secretion; appetite good; pulse natural; bowels regular; sleeps well.

℞. Tr. Kreosote ʒii.
Aquæ ℥vi. M.
Apply to gums three times a day.

March 3d.—But little change since last note, except that the edges of the gums are slightly ulcerated. Continue treatment.

5th.—Ulceration continues to increase; it has extended down towards the roots of the incisors. Appetite remains natural; bowels regular.

℞. Tr. Kreosote ʒiv.
Aquæ ℥vi.
Apply to gums as before.

8th.—No improvement since last note; ulceration has gradually extended; the roots of the lower incisors are somewhat exposed by the removal of the gums by ulceration; anorexia. The ulcerated surface was now touched with the nitrate of silver. Wash continued.

12th.—The ulceration has not extended laterally since the 8th; the alveoli of the lower incisors are exposed, and slight caries has taken place. The use of the nitrate of silver has been continued, and the following wash was applied:

℞. Sulph. Cupri ʒii.
Pulv. Cinchonæ ℥ss.
Aquæ ℥iv.
To be carefully applied three times a day.

14th.—Ulceration not much improved. The exterior of the chin has assumed a leaden colour; a vesicle has formed on the chin of a purple cast. A common cataplasm was applied. Treatment continued.

16th.—The vesicle bursted on 15th, and to-day was followed by a slough one-fourth of an inch in diameter; anorexia continues; patient quite feeble, somewhat emaciated. Half a grain of quinia was given every two hours. Ordered a cataplasm composed of pulv. cinchon. rhub., and flaxseed meal to chin.

17th.—Slough increased in size; it is a half inch in diameter; patient very feeble, no appetite. In addition to the quinia, beef-essence and wine-whey were given. Fœtor intolerable, to correct which a solution of kreosote was applied.

20th.—The ulcer measures one inch and a quarter laterally, and one inch perpendicularly; it includes nearly the whole chin; the bone is exposed; the ulcer looks more healthy; patient continues very feeble. Quinia, beef-essence, and wine-whey continued. The following local application was now made: ℞. Vin Aromaticum; lint was saturated with this, and applied. Tr. opii gtt. x. nocte. On the following day, a poultice composed of

℞ Pulv. Cinchon. Rub.
Fœces Opii ā ā ʒi.
Farin. Lini ʒii.
was applied over the lint saturated with aromatic wine.

24th.—Ulcer has not extended since the date of last note; it presents a more healthy appearance; but little change in the aspect of the exposed bone. Some difficulty in taking the quinia by the mouth; therefore, quiniæ gr. ii., amyli ʒi. was given by injection every three hours. Tr. Mur. Ferri was applied to the ulcer, as we were not able to obtain more of the aromatic wine.

26th.—Ulcer perfectly clean, and appears disposed to heal at one edge; some healthy granulations are apparent; dry lint was now applied. Quinia injections continued.

30th.—Considerable improvement in appearance of ulcer; cicatrization has commenced; about one inch of the inferior maxillary bone is still exposed; strength of patient increased; appetite improving; slight attack of diarrhœa. Ordered Tr. opii gtts. vii., amyli ʒi., by injection every three hours. Treatment continued.

April 2d.—Diarrhœa arrested; healthy granulation has commenced, and the ulcer is rapidly cicatrizing. Strength much improved; appetite good; local application continued; quiniæ gr. ½ every three hours; diet of the most nutritious character.

9th.—The patient has gradually improved up to this date; the ulcer is healing slowly. A few days past an ulcer was discovered on the inner side of right cheek, which has perforated the bone near the angle of the jaw; this was arrested by the nitrate of silver. A strong solution of iodine was applied to the exposed bone, which application was continued until the bone exfoliated; the ulcer then healed, leaving a very unseemly cicatrix.

General Summary of the Treatment pursued.

When the disease first appeared, the mineral acids, variously diluted, were used, but with little advantage. We also tried the sulphate of zinc, but the result of this remedy was equally unsatisfactory. At the suggestion of Professor Dunglison, kreosote was used, but this article had a very limited effect.

The treatment which we found successful in the greatest number of cases, was the following: In the commencement of the disease, when the gums presented the white, spongy appearance, already described, accompanied with a partial separation of the gums from the teeth, we resorted to the following application:

℞ Sulph. Cupri ʒi—ii.
Pulv. Cinchonæ ℥ss.
Aquæ ℥vi.
This was carefully applied to every part of the mouth that presented the appearance of disease, three times a-day. If, by this means, the progress of the disease was not arrested, in addition to the treatment above mentioned, we found the nitrate of silver productive of much benefit, when applied after the commencement of ulceration. By its use we could, in a measure, destroy the

diseased portions, and often excite a new and healthy action in the part affected, and in this manner prevent the extension of the ulceration. In the case reported, by the advice of Dr. Gerhard, the aromatic wine was used, also the muriated tincture of iron, with the happiest effect, after a portion of the chin had sloughed away, leaving the bone exposed. When the cheek became turmid and hard, leeches and blisters were applied; but they were productive of but very little, if any, advantage. After the cheek, or part affected, assumed the purple colour described, followed by the formation of vesicles, a common poultice was used; but when sloughing commenced, the fermenting poultice was substituted until the gangrenous sloughs were arrested. To correct the fœtor, which was often very great, the pyroligneous acid, or a solution of the chloride of soda, was used. At this stage of the disease, we found it necessary to administer tonics, conjoined with the most nutritious diet; quinia was the tonic to which we gave preference. When diarrhœa supervened, some mild aperient was given to carry off all irritating matter contained in the intestines; after which, some astringent was administered. As diarrhœa almost uniformly comes on towards the close of this disease, it may depend on the putrid matter which is discharged from the gangrenous surface, finding its way into the stomach. Almost every child which suffered from gangrenous sore mouth, was at the time convalescing from rubeola; in many cases, therefore, we found it necessary to give tonics from the commencement of the attack. The diet of these children was of the most nutritious character, as eggs, beef-essence, &c.; the rooms in which they were placed, were large and airy; if the strength of the patients would permit it, they were taken by their nurses in the open air every morning and evening. When it was possible to do this, it was found very beneficial. Of the twenty-three cases treated for gangrenous sore mouth, nineteen recovered, and four proved fatal. This disease, which was here a sequela of *rubeola*, proved to be the most disagreeable and distressing in its character, of any of the sequelæ that occurred during the epidemic; but pneumonia proved far more fatal.

[The gangrenous sore mouth is a disease with which every practitioner should be acquainted, as it not unfrequently occurs in debilitated children, more especially, as already stated, at the termination of measles. Its effects so nearly resemble those of mercury, when pushed too far, or administered in a case where there is some peculiar idiosyncrasy, that practitioners are oftentimes unjustly censured on this account, from a supposed injurious consequence of the mercurials which they may have prescribed. Still, I have no doubt that mercury acts in the same direction, if we may use the term, as gangrenous sore mouth, and tends to increase its mischievous effects, just as it does of venereal phagedœna.

I have seen the same disease in adults, and then it was usually complicated with gangrene of some other organ, especially of the lungs. The same complication often occurs in children, showing that there is a general vitiation of the fluids, which is quite as important as the local mischief.

Of the treatment, as laid down by Dr. Webb, we entirely approve. The experience, both at the Children's Hospital at Paris and Philadelphia, as well as that, I believe, of other institutions, is perfectly uniform. The general system should be supported by tonics, and the local mischief should be arrested by remedies which act as powerful modifiers of the tissues adjoining the diseased part, and not yet passed into sphacelus. Hence, caustics which possess the double advantage of destroying the part which is already dead matter, and of acting on the surrounding tissues, are generally the most appropriate. At Paris we always used the nitrate of silver; in this country, this invaluable remedy is used, as well as strong solutions of sulphate of copper. Either caustic is much more readily and completely applied in the form of a strong solution, (say 20 grains to the ounce,) than in substance, for it may be made to include the diseased tissue much more completely.

I suggested, in one case, the use of the muriated tincture of iron, without dilution, as a caustic, and after dilution, as a simple stimulant, from observing its good effects in a case of venereal phagedœna. The aromatic wine of the French pharmacopœia is a remedy which was introduced lately into tolerably general use at Philadelphia, particularly from the excellent results obtained by Dr. Ricord, of Paris, which were witnessed by many of our countrymen. It is an invaluable remedy, not only in venereal ulcers, but in sloughing sores in general, stimulating powerfully the adjacent tissues, and giving new activity to the tissues which are infiltrated with serum, previously to falling into gangrene.

The aromatic wine is readily prepared; we will give the formula in another number.

W. W. G.]

Cincinnati College.—Dr. Gross has resigned the Chair of General Pathological Anatomy, in the Medical Department of the Cincinnati College.

FOREIGN CORRESPONDENCE.

LETTER FROM DR. BEAUGRAND.—No. III.

M. Dubois's Lecture on the Theory of Infection and Contagion.

PARIS, *4th July*, 1839.

To the Editors of the Medical Examiner.

THE governments of Europe are still so much behind the spirit of the age in legislation upon sanitary subjects, that we cannot but hail with satisfaction every effort to illuminate so important a question. We shall, we think, be rendering a real service to science, by publishing the lecture which M. Dubois, of Amiens, adjunct professor in the Faculty of Medicine, of Paris, has been lately delivering upon the theory of infection and contagion.

While treating in general of the etiology of the subject, M. Dubois, of course, entered fully into the important question of its *specific causes.* This question he handled, we feel bound to say, with a lucidity and independence, honourable alike to his talents and his character. The *specific causes* he defines to be those which produce, in individuals exposed to their action, a well ascertained train of morbid phenomena—a disease, the principal features of which, with the order of their development, may be determined beforehand. Hence it follows, that the features from which the specific character is derived, are to be found not in the causes themselves, but in their effects. That is, the closest relations exist between the nature of these causes and the pathological phenomena which result from them. This speciality of action is such, that, from a given cause, an enlightened observer is able to prognosticate the *probable* effects. We say probable, for, from idiosyncracies, there are subjects unsusceptible to the action of specific agents.

Specific causes are of three kinds. Some do not pass the limits of mere intoxication; others produce actual infection; and others, again, give rise to contagion. In this classification, it is perceived, there is a sort of gradation. In the first case, the cause poisons the individual, but *goes no further.* Whatever be the severity of the effects produced, whatever the intensity of the symptoms, the sphere of activity remains confined to the particular subject affected. It must be observed, that, in this case, the cause is always material, and appreciable by the senses, and the ordinary means of analysis.

In the second case, the cause poisons both *the individual and his locality;* so that other healthy individuals, brought within it, may contract the same disease. Here, the sphere of action is enlarged; it constitutes what is termed a *focus of infection*, of which the real or supposed active principle escapes investigation.

In the third case, so great is the intensity of the cause, or, to speak more correctly, such is its power of reproduction, that it reappears in all the bodies which it affects, so as to transmit the disease without a focus of infection.

We shall not follow the professor in his examination of the first class of specific agents, which are, from their definition, neither more nor less than poisons. This subject is familiar to every one, and amply discussed in treatises on toxicology. We pass to the second order of specific causes.

Of Infection.—We have said that the agent producing intoxication is material: that of infection is not tangible. This principle is generally designated by the term *miasm*,—that of contagion, we shall presently see, is a *virus.* From the confounding of these terms, (miasm and virus,) infection and contagion have not been accurately distinguished from each other. Miasm, the agent of infection, is the result of circumstances belonging to localities; it may likewise proceed from living and diseased bodies; but it always retains such a local character, as to constitute a centre of radiation. It is a matter of observation, that miasmata can act upon individuals only after having formed a focus of infection. It must here be remarked, that infectious principles are not all to be traced to the same origin,—they must be subdivided. Some, in fact, emanate from certain localities, as marshes, collections of dirt, stagnant waters, masses of organized substances, animal or vegetable, in a state of putrefaction. Others emanate from living bodies, crowded together in narrow limits, as hospitals, prisons, camps, besieged cities, &c. The foci thus formed have, however, appreciable limits, beyond which the morbific principle is extinguished and disappears. It may be readily inferred from what has been said, that miasmata, dependent on the circumstances of localities, can form foci only in spots where these circumstances exist permanently or periodically. Thus, the miasmata which emanate from marshes, the effect of which is to produce paroxysmal fevers, can constitute foci only in the neighbourhood of these same marshes. The miasmata which are developed in the low lands of the Antilles, Lower Mexico, Vera Cruz, New Orleans, Charleston,

&c., and which develope fevers of a much more serious character, have likewise the sphere of their action limited to the places which give them birth.

A very remarkable fact, not generally understood in Europe by physicians, is, that, whatever be the number of individuals ill from the effects of these miasmata, if they are transported beyond the limits of the focus, they do not carry with them the sources of the morbific principle, and they cannot elsewhere form the nucleus of a fresh focus of infection. If, under particular circumstances, and at occasional periods, diseases have been known to prevail in regions heretofore beyond the limits of the noxious centres, it is because temporarily local dispositions, of a parallel nature, have been established, have produced miasmata in these localities, and accidentally formed there foci of infection.

But it is not the same with miasmata occasioned by the crowding together of diseased bodies. These may *every where* form centres of morbific radiation, whatever be the general condition of the localities. It is in this case essential that they should form a focus; otherwise, they are altogether harmless; a solitary individual cannot carry with him a sufficiently large dose of the noxious principle, to communicate the disease. We have examples of this in the typhus of armies, puerperal fevers, &c. But, let the patients be transported in mass, and it is quite otherwise: they do not cease to be surrounded by the same disastrous circumstances which originated the disease with which they are affected,—they form a morbific train, scattering disease through the regions which they traverse. Such was the case in France, in 1814, from Mayence to Paris, when the army, forced to keep up a retreating fight, successively filled and evacuated the different hospitals, and left typhus fever every where upon their route.

The infectious principle, once admitted into the economy, is an actual poisoning,—but it is a miasmatic one, not produced by any material agent, solid, liquid, or gaseous. The effects produced here are of a different character, though in some cases analogous with the effects of septic poisons, that is to say, those that produce alterations in the liquids of the economy.

But, since miasmata are not appreciable by our senses and methods of analysis, does it follow that they have no actual existence? By no means. In the first place, we know their source and origin; we know the limits which they occupy in certain localities; we know that they may be absorbed, and that a certain time elapses between the period of their absorption, and the appearance of the symptoms which denote it. For the solution, then, of this interesting problem, we have three points given:—1st, the circumstances which give rise to the development of miasmata; 2dly, their topography and geography; 3dly, the mode of their introduction into the economy, and the effects which result therefrom.

Taking up, successively, each of these points, M. Dubois shows that the origin of miasmata is always to be traced to organized matter, particularly when vegetable or animal matter is in a state of decomposition. Hence, the danger from marshes, common-sewers, ponds, and from certain low situations, &c. &c. Finally, he enters into the important pathological question, relative to the period during which the miasm remains in the economy, before manifesting its effects; in a word, the duration of the *incubation*. This must necessarily vary, both from the character of the miasm, and the constitution of the individual. Other things being the same, the period of incubation is shorter when the miasmata emanate from the congregation of diseased bodies. The same result is observed when organic matter in a state of putrefaction, producing the miasmata, is exposed to the influence of a burning sun. Their activity is carried to the highest degree when they are produced at the same time by local conditions, and the collection of bodies. We must here again dwell upon the fact, that, in every case, for the disease to be developed, an individual must be exposed to the miasmata, within the limits of a focus of infection—this is an indispensable condition. One circumstance has led many physicians into error, namely, that the disease may be developed and run through its stages, *without* the limits of the focus of infection; but, in all these cases, the patient must have changed his locality during the period of incubation. He absorbs the miasm in an infected spot, and carries with him the germ of the disease, which sooner or later attacks him. We shall terminate our remarks upon the subject of infection, by observing, that the first effects of the infectious principle show themselves upon the condition of the liquids of the economy and of the nervous system. This alteration of the liquids may go so far as to change their physical aspect. Sometimes the nervous system is the first affected; we then have debility, and extreme

prostration of the powers of the mind and body. Generally these two orders of phenomena exist simultaneously.

Of Contagion. The opinions of authors are far from being united upon this subject. Hufeland maintained that every specific disease, determined by a subtile matter introduced into the economy, was a contagious disease. Thus, with him, there would be no difference between a poisoning produced by hydrocyanic acid, for example, and a contagious disease of the highest grade. Other pathologists, Dr. Chomel among the number, hold that the properties of contagious principles are, to determine in the individuals attacked, the reproduction of principles similar to themselves, and capable of producing the same effects in another person. This definition is not accurate, and we know that the miasmata produced by collections of the sick, are capable of exciting in other persons both the same morbid phenomena, and principles similar to themselves, and yet there is no contagion. Hence, the error of many physicians in placing the typhus of camps in the list of contagious affections. If, now, we examine the ancient theory of Fracastor, we shall see that it is absurd in many points, and requires modification in others. According to this author, in the diseases of which we speak, all causes act in the same manner. There is a virus, eminently subtile, escaping from the sick bodies, attaching itself by preference to vegetable or animal substances, such as wool, cloths, straw, gliding into letters, insinuating itself into cotton and silk stuffs, and susceptible of preservation for thirty or forty years, of crossing the seas, and of being transported to great distances. Upon this theory depend all the sanitary measures at present in force. Every thing, according to Fracastor, is contagious; he allows no cases of infection. Other doctrines have been put forth upon this subject, but we have not space here to speak of them.

With M. Dubois, the principle of contagion is a *virus*, and he lays down several kinds of them. Some are called *fixed*, when they appear to enter into the constitution of the animal tissues; such is the syphilitic virus. Others are susceptible of being disseminated in the air, circulating like miasmata. But, what it is particularly important to establish, are the different modes by which this transmission may be effected. It will be seen that there is, in this particular, a notable difference. Sometimes the virus is so fixed, that contagion can take place only after an actual inoculation; such is the virus of rabies. At other times, actual propinquity is indeed necessary, but simple contact upon an absorbing surface, a mucous membrane, for example, is sufficient; the syphilitic virus acts in this manner. In other cases, simple contact upon a cutaneous surface produces the effect; this is the condition necessary for the action of the psoric virus. This last example seems to us not to have been happily selected by the professor, for many physicians, ourselves among the number, attribute the contagiousness of the itch to the *acarus*;—we shall see below that M. Dubois discusses this question. At other times, the transmission of the virus takes place at a distance, by the medium of the atmosphere, as in the eruptive fevers, variola, scarlatina, &c. Sometimes, it is effected by means of contaminated objects, *contactu rei contaminatæ*, as Van Helmont observes with reference to the plague, which, it is said, may be communicated in this manner. In fine, the same disease may be transmissible by several of the modes which we have enumerated—the plague, for instance, according to the testimony of various observers. It may be propagated by means of inoculation, by immediate and mediate contact, and, as above remarked, by contaminated objects. The difference in the mode of transmission has no connection with the gravity or duration of the disease.

Here arises a question, unsusceptible of solution in the actual state of our knowledge—What is a virus? Does the material object which we see owe its virulent properties to a principle of which it is merely the vehicle? Has the virus a separate, distinct existence? Or does the material substance owe its property of transmission merely to the chemical combination of its constituent elements? Or does its virulence, in every case, depend on the presence of imperceptible animalcules? M. Dubois has attempted some experiments to determine the composition of a particular virus—the vaccine. The following are the principal results of his experiments:—If, immediately after extracting, at the proper time, the vaccine virus from pustules, normally developed, a drop be subjected to microscopic examination, it is found to be perfectly limpid and transparent. There is not the least appearance of globules, granulations, or scales. Soon there are seen to form, very elegant crystals of muriate of ammonia; finally, there is established a peculiar mode of desiccation. There are seen lines of fibres (*fibrilles*) folded upon each other, very

different from the crevices observed in every drop of dried albumen. M. Dubois has, besides, arrived at other more important results. The vaccine virus, congealed, (he has reduced it to a temperature of 10° below zero of Réaumur,) loses its property of transmission. The same result takes place if it be raised to the temperature of boiling water. In these cases, how do the two extremes of temperature act? Is it by killing the imperceptible animalcules, or simply by altering the constitution of the virus? These are questions which cannot be solved, whatever conclusions we may reach respecting the difference of effects produced by each distinct virus.

Let us now pass to some considerations upon the different characters belonging to the principles of contagion and infection. Every disease, produced by a contagious principle, is itself contagious. We know that such is not the case with affections depending on miasmata, and that the transportation of sick persons beyond the limits of a *focus of infection*, has no power to carry with it the germ of the disease. On the contrary, every individual affected with a contagious disease, becomes capable of spreading it, of communicating it to others, whatever may be the salubrity of the places to which he may go. Hence we deduce the important conclusion, that, without the intervention of a focus of contagion, a disease may be transmitted from diseased to healthy individuals, and, further, from a single contaminated individual, to an entire population. This is the important, distinctive character of contagion, which, as it is better understood, and better studied, is every day narrowing the circle of contagious affections. Grave epidemics, serious public calamities, gave occasion to the adoption of the doctrines of Fracastor; and the sanitary regulations which resulted from them, were indiscriminately applied to all the contagious diseases—to those of which the principle is fixed, as well as to those in which it is susceptible of dissemination; and, finally, to simple infections, dependent on localities. But, as physicians have become more enlightened, they have been impressed with the necessity of proper distinctions, that, while acknowledging the existence of affections really contagious, it would be absurd to apply to those of which the virus is fixed,—syphilis, for example,—regulations appropriated to the plague. In later times, they have seen that the focus of the infection is confined to certain limits, which it does not pass, even with the emigration of the sick; distinguishing always between infections dependent on localities, and not going beyond their limits, and those resulting from collections of the sick, which may be reproduced at any time and place. We have dwelt particularly upon these points, and have insisted upon them more than once, under the conviction that they are of the highest importance, and are destined to effect a revolution in the sanitary systems generally adopted. We indulge the hope that diseases, which are spread by a contagious virus, will no longer be confounded with those maintained by a *local, circumscribed* disposition, and that the unfortunate inhabitants of those localities will cease to be shut up and condemned to perish, as in a tomb.

Here a question offers itself for examination—Is there no other distinction between the principles of contagion and of infection than that which results from the degree of intensity, or are there distinctions depending upon the very nature of those principles? Several circumstances tend to the belief that there are other distinctions than those which depend upon the degree of activity. In the first place, there are contagious diseases, much less grave than certain infectious diseases. Among the first are, some of the eruptive fevers; among the latter, the camp-typhus. There is, therefore, something characteristic, something special, in certain contagious or infectious principles, which distinguishes them from others of their class, and gives them a character of severity or mildness not belonging to the latter.

We have thrown out the idea that, in miasmata and virus, there was probably a sort of animation; however, the active existence of animated beings has only been established in particular virus. Analogy would lead to the belief, as has been remarked by M. Raspail, that these beings might exist in other virus, fixed or circulatory. It is well known, that, since the discovery of the acarus scabiei, some pathologists have persisted in viewing this as merely a complication of the affection. According to M. Raspail, however, it can be no longer a matter of dispute that this animal is the actual cause of the symptoms. We must not, however, confound the infusoria which exist as consecutive products in animal fluids, with the animalcula which propagate contagious diseases. M. Donné appears to have fallen into this error. M. Donné having discovered animalcula in the vaginal fluid, attempted thence to deduce a distinction between contagious and non-contagious discharges. M. Raspail, however, at once recognised here the simple presence of an infuso-

rium, already observed by Müller in the maceration of flesh. Thus, a mere parasite had been mistaken for the source of disease, which was imputed to the animalcula, the harmless fruits of a preceding putrefaction.

As to miasmata, it has been already said that they arise from organized matter, in a state either of life or decomposition. May it not hence be inferred that they contain something organized? In the second place, they attack directly the principle of life, and, finally, they require, before acting, a certain period of incubation. Have we not here the proof of a kind of animation which requires time to take up relations with the organization into which the miasm has penetrated?

In the cure both of contagious and infectious principles, regard must be had both to individual idiosyncracies and to certain external circumstances. The influence of the first is indisputable. It is well known that certain individuals are so fortunate as to be unsusceptible of the action of virus, at least of many of them. The condition termed acclimation, is also known to be a protection against the influence of miasmata. Such are also said to be the effects of serenity of temper, sobriety, moderate exercise, &c. With regard to external circumstances, we are told that much depends upon the condition of the atmosphere,—that an elevated temperature favours the action of a virus circulating in the air. But this is a question for further examination, inasmuch as the assertion has been based upon a want of distinction between miasmata and virus.

Without here entering again upon the arguments confirmatory of the views of M. Raspail, touching the existence of animalcula, at least in some virus, we shall add, that the remarkable property belonging to certain contagious principles, of being propagated and preserved by means of inoculation, is a fresh point of resemblance to beings having a distinct existence; for, after all, what is generation, in the higher orders of animals, but an actual inoculation? What is particularly worthy of observation, is the property inherent in every particle of the virus, however minute, of regenerating itself, and reproducing a series of identical phenomena. This series of phenomena is the same, without regard to the condition of the subject inoculated; thus, the vaccine virus has been inoculated in individuals tainted with the highest degree of scrofulous or syphilitic cachexy, and the progress of the pustules has been the same as in healthy individuals. Pus, taken from them, and inoculated in healthy individuals, has given rise to an eruption as regular and normal as possible. Thus, it is demonstrated that virus have a distinct and independent power of reproduction. This is not all; contagious principles, affecting an individual simultaneously, have been seen to produce, for example, both the variolous and vaccine eruption, which progressed together, without influencing, or, in the slightest degree, interfering with each other.

If the intensity of action of contagious principles be not proportionate to the number of individuals affected, the same cannot be said with regard to infectious diseases. Here, the symptoms become more developed, more formidable, in proportion to the number of the sick; and this is understood, by reflecting that we are constantly alimenting and increasing the activity of a focus.

Certain contagious principles pass, by means of inoculation, not only from man to man, but from certain animals to man, as has been lately shown with respect to glanders. Among these principles, are happily some which preserve man from other contagious virus, as the vaccine matter; once communicated to man, it may be indefinitely transmitted to other individuals. But there are some, as rabies, which man has never transmitted to his fellow man, and which appear to perish with him; at least, so far, no authentic fact has proved this communication. And, according to several observers, in the canine race itself, the virus rabiei is not transmissible by a third inoculation. It is scarcely necessary to remark, that certain contagious principles take but once upon the same individual, while the effects of others are repeatable at pleasure.

A question of serious importance has been lately stated, with respect to certain virus. Is it proved that some among them have undergone a kind of degeneracy?—have their properties become enfeebled with time? This has been advanced with regard to the vaccine virus. It was first inferred from an inferior development of pustules and cicatrices. At the present day, more important facts are brought to bear upon the question, connected with the preservative efficacy of the virus. Numerous statistical tables have been cited, and the impression is entertained that subjects, once vaccinated, become again liable to contract variola, after the lapse of a considerable time—say, eight or ten years. The necessity of revaccination is a well established point.

The general effects of contagious principles upon the economy, act chiefly upon the fluid. The blood, in many cases, is evidently altered. In certain diseases of this class, certain symptoms show themselves upon the skin, which lead to the belief in a kind of depuration or elimination of certain morbific agents with regard to other virus; the first phenomena are local, and attack first the parts directly contaminated, as in syphilis; afterwards other organs and tissues, when absorption has had time to take in the noxious principle. Hence the idea of destroying this, before its introduction into the economy. Finally, which is the last term of the action of the virus, every part of the economy may be attacked, when the disease takes the name of constitutional.

BIBLIOGRAPHICAL NOTICES.

An Experimental Inquiry into the Physiology of Cutaneous Absorption, and its application to Therapeutics. By William Herries Madden, M. D., Licentiate of the Royal College of Surgeons, etc. Edinburgh: 1838. 8vo. pp. 152.

The doctrine of cutaneous absorption includes the therapeutic effects of medicinal baths, a means of treatment of great value in the management of both acute and chronic disease. It is difficult to say why this therapeutic agent (with the exception of sea-bathing) should be so needlessly neglected both in this country and in Great Britain; it is free from many inconveniences that attend the administration of internal remedies in a number of disorders, and sometimes has a physiological connexion with the disease which enables us to act much more directly upon it, than we can do by any internal medicine. In our own experience we have long estimated the importance of medicated baths at a very high standard, and we have rarely been disappointed in the good results we anticipated from their employment.

The diseases of children are very advantageously treated by these baths. As a tonic, the warm or cold salt bath is most useful; as an alterative, none answers so well in the large majority of cases as the sulphur bath, which is formed artificially by dissolving the sulphuret of potassa in water. The good effects of the sulphur bath as an alterative in the diseases of children, became very manifest at the hospital at Paris, which is specially appropriated to them. The usual mode of treating children affected with itch, is to place them in a course of sulphur baths, which are given five times a week; two always are omitted on account of the domestic arrangements of the hospital. The children subjected to this course almost universally become fat, and enjoy much more robust health than at the time of their admission. From this circumstance the remedy was introduced into the treatment of several diseases bearing no direct connexion with the skin. Amongst them were chorea and chronic diarrhœa, which is so frequent a sequela of the exanthematous diseases of children. In both these diseases the success of the sulphur bath, as a general modifier, was most remarkable, and became part of the established practice of the institution. The use of iodine, administered in the same way, is long known, and duly appreciated by practitioners; and the number of medicinal agents used in this way is undoubtedly susceptible of very great extension.

The cutaneous absorption of medicines is by no means confined to them, as administered in the form of baths. Any mode of application which either softens the cuticle by the aid of a liquid, or long-continued friction, or which consists in the direct application of the medicine to the skin, after previously removing the cuticle, will produce absorption. That is, provided the remedy be soluble, and not productive of much immediate irritation of the skin.

The fitness of medicinal substances for cutaneous absorption, is, however, somewhat variable, and may depend upon some peculiar property unconnected with solubility. Thus, it will be found that opium and belladonna are much more active in a proportionate dose than some other narcotics; and that aloes and gamboge are most active as purgatives. The difference may, however, depend, in part, upon the ready solubility of the remedy in the fluids of the body, the smallness of the dose at which the remedy proves active. If the necessary dose be large, the extent of surface acted upon is often disproportionately small. Narcotics, as a general rule, act more powerfully than any other class of substances; we may, in this case, admit, that they exercise a local action upon the nerves which propagates itself in a reflex manner to the great nervous centres, and that their power does not altogether depend upon the absorption.

Dr. Madden has given a condensed account of the observations hitherto made upon this subject, and has added a few new experiments of his

own, which illustrate the action of baths in favouring the absorption of medicinal substances by the skin. A part of his work contains the description of other methods of introducing medicinal substances by the skin, such as that of frictions, as proposed by Chrestien of Montpellier, and the endermic method. We were somewhat disappointed in not meeting with a larger number of original facts, particularly connected with the treatment of disease by internal medication; but, though there is little positively new in the work, what is already known is classed in a clear and methodical manner.

THE LECTURES OF SIR ASTLEY COOPER, Bart., F. R. S., *Surgeon to the King, &c., on the Principles and Practice of Surgery, with additional Notes and Cases.* By FREDERICK TYRRELL, Esq., Surgeon to St. Thomas's Hospital, and to the late London Ophthalmic Infirmary. Fifth American, from the last London Edition. Complete in one Volume. Philadelphia: 1839. pp. 580, 8vo. Haswell, Barrington & Haswell.

We are glad to see that the importance attached to the lectures of Sir Astley Cooper, calls for a fifth edition. This work is illustrated by two plates, showing the position of the bone in dislocations of the hip-joint, and the mode of effecting its reduction. The diseases of the breast are shown in two plates containing drawings of several diseased specimens, some of which are coloured. From the great expense of the large works on dislocations, hernia, &c., they are necessarily inaccessible to the large majority of practitioners, so that the republication of these lectures, embodying the more important points on these subjects, is particularly valuable.

From the extensive hospital and private practice enjoyed by the lecturer during a period of near fifty years, his opinions on all subjects relating to surgery are of peculiar importance; and his lectures may be regarded equally necessary to practitioners who devote themselves more immediately to the practice of surgery, and to those who, not making that branch the object of peculiar attention, may stand in need of a work of reference.

Dr. Alexander Lee, of London, is now editing a complete set of Sir Astley Cooper's works, in octavo, with all the plates in reduced size. Two volumes of the work have already appeared; the remaining volume will be soon forthcoming.

FOREIGN SUMMARY.

Clinical Lecture on Porrigo Favosa,—Eczema,—Impetigo. By ROBERT CARSWELL, M. D.—Gentlemen: We have had, and still have in our wards, several interesting cases of cutaneous diseases, viz., two cases of porrigo favosa; one case of impetigo; two cases of eczema; and one case of psoriasis guttata.

I shall, in the present lecture, treat more at length of some of the cases than of others, and chiefly with the view of impressing you with the importance of an accurate knowledge of the diagnostic characters of cutaneous diseases. I have, already, on a former occasion, endeavoured to point out to you the necessity and importance of studying these diseases practically,—of investigating them for yourselves,—of making yourselves familiar with their *elementary* physical or anatomical characters; and for these obvious reasons, viz., that the classification of cutaneous diseases now almost universally adopted—that of Willan and Bateman—is founded on these elementary characters; that it is, therefore, only by means of an accurate knowledge of them that you can recognise the individual existence of any special disease of the skin, and distinguish it from any analogous but different disease of this tissue. That it is also in consequence of your being in possession of an accurate knowledge of these elementary characters, that you can turn to your own advantage, and that of your patients, the opportunities you now possess, and which you must, at some future period, almost daily meet with in practice. And I may again repeat, that it is by means of this knowledge alone that you can avail yourselves of the assistance to be derived from the recorded experience of those who have studied cutaneous diseases in an especial manner, and who ought to be your guides in the successful treatment of them.

I insist the more on this part of our subject, that so little attention is paid to cutaneous diseases by medical men at that period of their studies when they can best acquire a knowledge of them; that is to say, when students, and when attending hospital practice, where there are always to be seen a certain number and variety of these diseases. It is true that they are small in number, compared with other diseases which, from their urgency, severity, and danger, require in-door hospital relief, and the employment of remedial means which cannot otherwise be obtained. Still there are a great many cutaneous diseases, independently of those accompanied with fever, which render the subjects of them unfit for the discharge of their daily labours; which occasion much annoyance, and even suffering, for months or years; which undermine the general health; which disfigure various parts of the body; which spread by contagion; or which place the sufferers in a state to be loathed and avoided. Few, comparatively speaking, of such cases, are received into hospitals. A much greater number of this class of patients apply for relief as out-patients, or go to dispensaries; and

a still greater number there must be who cannot take advantage even of the limited means possessed by most of the charitable institutions in London, for the successful treatment of cutaneous diseases.

I notice this latter circumstance that I may take advantage of the present opportunity of expressing my opinion as to the importance and necessity of having in this vast metropolis, either separate establishments, or in connection with hospitals, for the treatment of cutaneous diseases. Without such establishments our knowledge will remain, as hitherto, inaccurate and incomplete, and the treatment of them desultory, empirical, and unsuccessful.

In every science of observation, the accuracy and extent of the knowledge which we acquire of the objects which it embraces, are in proportion to the extent and frequency of the opportunities we possess of seeing and comparing these objects; and this becomes the more necessary the greater their number and diversity, as is the case with the diseases of the skin. Such opportunities and advantages can, I repeat, only be obtained by bringing together a great many of these diseases, and which would speedily be accomplished were they to receive that special attention from physicians to which they are entitled.

Of the five cases of diseases of the skin to which I propose to direct your attention to-day, there are, as I have said, two of porrigo favosa, the only two cases of this kind we have had in my wards during the last six months. One of the cases was an example of the worst form of porrigo favosa; that is to say, of great extent and of long duration. The other was more limited, and of much shorter duration. There was no difficulty in recognising the physical characters of the disease in either, although they were much more marked in the former than in the latter, both as to the cup-shaped appearance and colour of the pustules, and the patches formed by their extension and subsequent union. But as some of you may not be aware of what constitutes the elementary character of porrigo favosa, I may repeat what I stated on a former occasion, that this contagious pustular affection of the scalp consists in the presence of what is called the *favous pustule*. This pustule is formed by the deposition of a minute quantity of pus, which concretes almost immediately into a pale yellow or straw-coloured substance, having a defined circular edge, hardly, if at all, rising above the surface of the skin, and surrounded by a slight blush of red. The successive effusion and concretion of the matter proceeds from the centre towards the circumference, in which direction it accumulates, and thereby raising the circular edge of the crust, and giving to it that *cup-shaped* appearance by which it is recognised. The size of these crusts, or concretions, varies from one to two lines, to half or three-quarters of an inch in diameter. They are distinct at the commencement, but become confluent during their progress, and are sometimes confounded together into a large, dry, brittle mass, resembling a mixture of sulphur and plaster. Even in this state, however, of agglomeration, traces of the primitive or elementary character of the disease are perceptible, viz., numerous round or irregular depressions, indicating the situation and number of the original favi. The most of these appearances you will recognise in the description given of the following case of porrigo favosa.

William Tobin, æt. 18, was admitted on the 6th of April. He is of a scrofulous habit and sanguineous temperament, and has enjoyed very good health, with the exception of headach, induced by the eruption on the scalp, which first appeared eight years ago, and has continued up to the present time, gradually getting worse, being attended with considerable itching and smarting, especially in warm weather.

On admission, the head was the seat of an extensive eruption, occupying the upper, anterior, and posterior parts, and the patient stated that at one time it extended over the eyebrows. On all these parts the eruption does not present the same characters. On the upper, anterior, and lateral parts of the head, towards the temples, it presents the characters of porrigo favosa; over the occiput, those which bear a resemblance to the granular form of impetigo. On this part the hair is plentiful, but short and crisp, whereas on the former parts few traces of it remain. The most advanced part of the favous eruption presents patches, distinct from each other, five in number, and from one to two inches in diameter, of an irregular, but somewhat circular, figure. The margin of each patch is uneven, thick, and elevated; its surface rough, dry, and fissured, of a yellowish-white colour, very much resembling a mixture of sulphur and mortar, more elevated in some parts than in others; of a loose texture, and in many places cellular, assuming the appearance of honeycomb. Besides these large patches, constituting the advanced form of the disease, and the result of the accumulation of the concrete secretion, and agglomeration of the original pustules, these latter are seen in a few situations, presenting their elementary characters; that is to say, they appear in the form of small, flat, straw-coloured pustules, quite distinct, with an elevated border, depressed centre, and slightly inflamed base. The intervening skin over a great part of the scalp is red, in several parts greatly congested, and traversed by numerous varicose vessels. There is considerable itchiness, but no great heat. Numerous large pediculi burrow in the fissures and sulci of the larger patches, and among the roots of the hair, on the posterior part of the head. The whole surface exhales an offensive and nauseous odour.

The lymphatic glands of the neck and left axilla, are greatly enlarged and very hard. The general health is pretty good; appetite very good; tongue clean; bowels regular; urine not albuminous; impulse of heart too strong and too extended.

From the remarks I have made on the elementary characters of this form of pustular eruption

of the scalp, you will readily recognise in the description of this case, the porrigo favosa. There is no other pustular eruption with which it could be confounded, except the porrigo *scutulata;* and here the mistake would be of little importance, as it is a disease of the same nature, similar in its elementary characters, arising, like the former, in the favous pustule,—communicable, like it, by contagion, and requiring the same means of treatment. The porrigo favosa is a disease which, when once seen, can hardly ever be confounded with any of the other and more common non-contagious pustular eruptions of the scalp; all its physical characters are so peculiarly well marked, and leave a defined and lasting impression on the mind. Those of you who have not seen this case when the patient was admitted, and before the incrustations were removed, may now obtain an accurate idea of the original appearance of the disease, so faithfully represented by Mr. Tuson in the wax model before you.

The extent of the disease in this case; the great length of time which it had existed, and especially the extremely unhealthy condition of the scalp in general, were circumstances which combined to render the cure both tedious and difficult. It is easy to remove the incrustations, however extensive, by repeated poulticing; but the morbid condition of the tissue of the scalp, and of the bulbs of the hair, often resists, for a long period, the most assiduous and judicious use of remedies. It is not so much the reproduction of the original disease that retards the cure, as the repeated production of other pustular and vesiculo-pustular eruptions, the consequence of the diseased state of the skin. It is this latter, therefore, which we have chiefly to combat in bad cases of porrigo favosa, and to which, in this case, after the removal of the incrustations, the principal part of the treatment has been directed. After the application of poultices for two days, the scalp was completely cleansed of the incrustations. The hair was clipped short, and for some time the poultices were continued during the night, and the water-dressing applied during the day. Under this simple antiphlogistic treatment, considerable improvement followed, and was afterwards farther advanced by the occasional application of leeches to the most inflamed and congested parts of the scalp. With the same view, and also to diminish the tension and turgescence of the scalp, and effect the obliteration of the vessels with which it was so thoroughly penetrated, scarification, by means of a fine scalpel, was had recourse to, but could not be persevered in to any extent, in consequence of the great pain complained of by the patient. I expected to have derived great advantage from this method of treatment, which I have found extremely successful in chronic cases of circumscribed impetigo of this part of the body, accompanied by great thickening and vascularity of the scalp. It removes the tension of the affected part, diminishes the swelling, empties the enlarged vessels, and affords a free issue to the puriform secretion, which is either infiltrated, or exists in the form of numerous small abscesses.

During the early progress of the case, copious eruptions of acores pustules took place from time to time. This was occasioned chiefly by the use of the linseed poultices, and which always happens when not made of the fresh material. This occurrence, however, was obviated by using the potato-poultice instead, the pustules which now make their appearance from time to time being comparatively few in number. During the last two weeks or more, these poultices have been applied at night, and a lotion of the subacetate of lead, or the simple water-dressing, during the day. Leeches also, from eight to ten in number, have been applied several times to the most inflamed parts, during this period.

The improvement which has been effected by these antiphlogistic means has been very considerable; but there is yet much to be done to accomplish a cure of the disease. Although the tumefaction and vascular turgescence of the scalp have nearly disappeared, there is still much redness and tension, which will require the same means of treatment for some time to come. When these morbid conditions have been still further reduced, and should we retain this patient a sufficient length of time in the hospital, as an in-patient, we may then employ, with advantage, various stimulating, or otherwise modifying agents, such as alkaline and sulphureous lotions, the nitrate of silver, and other remedies of this kind, which experience has shown to be useful in the last stage of severe cases of porrigo favosa.

In the treatment of this case, we have not had recourse to the removal of the hair, recommended by several dermatologists, as a necessary part of the treatment of this disease. I am not disposed to attach much importance to this practice. At all events, the removal of the hair may be accomplished much more easily and speedily by the use of the alkaline ointment, or lotion, recommended by Biett, than by any of the means formerly employed. The ointment may consist of from one to two drachms of the sub-carbonate of potash, or of soda, to an ounce of hog's lard; and the lotion of the same quantity of these salts to a pint of water.

I may remark, that the parts which were covered by the incrustations remain perfectly bald; the skin is quite smooth and glossy, and presents a somewhat reticulated aspect. Owing to the long duration and severity of the disease, there is no probability that the hair will ever be reproduced. In milder cases this sometimes happens, the new hair, however, having a somewhat woolly and crisp appearance.

No general treatment has been employed in this case, further than attention to the state of the bowels, and the use of the iodide of potassium, which was indicated from the scrofulous enlargement of the lymphatic glands of the neck. It is doubtful whether any favourable change has followed its administration. If these glands are

less hard than formerly, they are certainly not diminished in bulk.

I may say a few words on the supposed causes of porrigo favosa. It is, in itself, contagious, communicable by contact; but it occurs in many instances independently of this source, under a variety of circumstances, as to age, sex, and constitution. Biett states that its development is excited under a variety of circumstances, such as a deficiency of the necessary articles of food; misery and filth; living in unhealthy, ill-aired, damp situations. That it occurs chiefly in persons of a soft, lymphatic, and highly scrofulous constitution, although it may be met with in young persons presenting all the attributes of health and strength. Under such circumstances, it is obvious that we are, as yet, ignorant of the real cause of this disease, as well as of that state of the constitution which renders individuals susceptible of its contagious influence; for it is not always transmissible by contact, as has been proved by experiment; and many boys in the same school, equally exposed with those who contract it, escape altogether free from it.

The second case of porrigo favosa is a good example of the disease, occurring in an otherwise healthy child, of five years of age. We have not been able to obtain a full history of the case. The father is said to have had a scorbutic eruption on the face. A brother and sister have had eruptions on the head, but the precise nature of them has not been ascertained.

The eruption in this child had existed nearly five months, and he was treated for some time as an out-patient. When admitted into our wards, a number of favous pustules, and patches of incrustations, of a pale, yellowish-gray colour, of a brittle consistence, the largest not more than the fourth of an inch in diameter, occupied the upper and posterior parts chiefly of the scalp. They were accompanied by very little redness of the surrounding skin; no exudation, or other morbid appearance of the rest of the head. The general health was good; there was no enlargement of the abdomen, no derangement of the digestive organs; appetite good; sleep natural.

The elementary characters of the porrigo favosa were readily recognised in this case, although not so marked as in the former one. Several of the pustules presented the depressed centre and elevated border; and the incrustations the dry plastery look and colour peculiar to them.

The favourable state of the general health, the limited extent of the disease, and the absence of inflammation of the scalp, except in the immediate vicinity of the patches, were circumstances which augured a speedy, and, probably, permanent cure of the disease. The incrustations were removed by poultices, and the head cleansed by frequent ablution with warm water and soap. The alkaline ointment was afterwards used for some time to effect the removal of the decayed hair, and also to stimulate the less inflamed parts of the diseased cutis. And, lastly, the nitrate of silver was applied to those points where fresh pustules appeared, or where the skin was excoriated. No trace of the eruption remained at the end of six weeks, except complete baldness of the parts which the former had occupied. Full diet was allowed, and the bowels were regulated by occasional small doses of calomel and rhubarb.

The success which followed the use of the nitrate of silver in this case, was partly attributable to the circumstance of the disease having ceased to spread, although it certainly also arrested the development of several pustules which appeared during the progress of the treatment.

The next case is one of impetigo, which occurred in a boy ten years of age, of sanguineous temperament. He had generally enjoyed good health, although he has had two or three times an eruption on the head. The first occurrence of the eruption was two years ago, just after the death of his father, who, he said, had an eruption on the head at the time of his death, and from whom he supposed he caught it, although a brother and sister, equally exposed with himself, had no eruption.

The present eruption occurred two months ago, a few pustules only occupying a small spot, which discharged a good deal, and gradually spread.

On his admission there was an eruption on the top of the head, on the left side, consisting chiefly of incrustations, of a dry, rather brittle appearance, of a dirty, yellowish-gray, or brownish colour, intermixed with, and spreading amongst, the hair. The elementary character of the eruption was not seen on any part of the head at this time, but it soon after appeared in the form of the acores pustule; that is to say, a small, prominent pustule, larger than the psydraceous, containing a yellow-coloured fluid pus, which, after a short period, burst, and spread its contents amongst the hair, which became converted into yellowish-gray or brown crusts. By means of these characters we recognised the presence of impetigo. The prominent pustule, with its fluid contents, were sufficient to establish the diagnosis, and to distinguish the eruption from porrigo favosa and porrigo scutulata, the two contagious forms of pustular eruptions of the scalp. When we can accomplish this important point, we need not trouble ourselves to find out whether an eruption of the scalp is one of porrigo larvalis, or porrigo granulata, as they have improperly been called, as both of these eruptions are modified forms of impetigo, or of eczema impetiginodes, and are not propagated by contagion.

The general health of this boy was good, and remained so while he was under treatment, except on one occasion, when he had fever for two days, from derangement of the bowels. The treatment continued for about the same length of time as in the preceding case. It was commenced by the removal of the hair, and the application of poultices. The patient was allowed full diet, and the bowels were regulated by small doses of calomel and rhubarb every alternate night. The removal of the hair on the affected

parts was accomplished by the daily use of the alkaline ointment, and washing with warm water and soap.

On several occasions, however, the eruption spread, or appeared on previously healthy parts of the head, and also on the ears, by the formation of pustules, to which the same means of treatment was applied. After this had ceased to occur, and the inflammatory stage had subsided, the zinc ointment was employed for some time; and, lastly, the nitrate of silver, which completely checked the further progress of the disease.

The affected parts of the head did not present that baldness and glossy appearance of the skin, which were observed in the cases of porrigo favosa. On the contrary, the hair was only thinned and shortened, and the skin presented numerous dark points, indicating the protrusion of others from its surface. In most cases of impetigo, which constitute a great number of the pustular eruptions of the scalp, the treatment employed in this case will prove successful, when the general health is not impaired, and proper attention is paid to food, clothing, and exercise. In debilitated and scrofulous children, however, general treatment requires special attention. Besides attending to the circumstances just mentioned, and regulating the biliary and intestinal secretions, the warm or shower-bath, according to circumstances, must be employed, combined with mild tonics, together with the use of those remedies which act in a special manner on the capillary circulation, and thereby promote the important functions of secretion and absorption. And no remedy in our possession exercises such a speedy and beneficial operation in this respect as the iodide of iron, particularly when aided by the other general means to which I have alluded. In debilitated, scrofulous, and especially anemiated children, its remedial agency is often remarkable. I need not remind you that its use is counter-indicated in all cases of gastro-intestinal irritation, and even where local inflammation of a sthenic character is present. These states must first be subdued by proper antiphlogistic treatment.

The next case which I have to lay before you is that of Phœbe Avery, aged 48, admitted the 14th of May, affected with eczema. The following is the history of her case:—

She is of rather tall stature, stout conformation, and sanguineous temperament. She is a housekeeper; married; and has had ten children, four of whom are living. Her habits and mode of life are regular. She is a native of Hampshire, but has lived in town for the last twenty-six years, in an open and dry place. She had small-pox at the age of eleven, and scarlet fever, rather severely, at the age of twenty-two. She had influenza five years ago, which left her in a weak state. About five or six weeks before Christmas, she received an injury from a carriage wheel falling upon her leg, bruising the skin, and otherwise injuring the limb, to some extent. A linseed poultice was employed, and the wound healed by Christmas; but weakness and tenderness of the limb remained, with redness, and itching of the ankle, which gradually increased, when she applied for medical advice, and was ordered to employ cooling lotions, which she says served only to aggravate the symptoms. Three weeks ago she complained of aching pain in the knee, for which she had a liniment. This brought out a vesicular eruption on the knee, ankle, and shin-bone. She next applied a stimulating ointment to the leg, the effect of which was a rapid extension and coalition of the vesicular eruption; and within the last ten days, small pimples have appeared on various parts of the body. On Friday last she was admitted under Mr. Liston's care; on the 14th (May) transferred to our wards.

Present Symptoms.—Extensive redness and severe itching of the right leg, the redness assuming in some parts a purplish colour, thickly set with vesicles, in various stages of development. There is also a quantity of scales, the result of the concretion of the fluid discharged from the ruptured vesicles. The limb is considerably swollen, from œdema, tense, and hard, particularly around the ankle-joint, and very painful on pressure. The eruption is also observed, in a slight degree, on the chest, arms, thighs, &c., apparently dying away. Appetite not impaired; tongue slightly coated; bowels irregular; pulse strong, full, and somewhat accelerated; urine scanty, and rather high coloured; catamenia have not appeared for the last six weeks.

This case is interesting, not so much from the cause in which the eczema originated, viz., a mechanical injury, as from the lesson it affords, by the subsequent aggravation and extension of the disease, from improper treatment. Cold lotions were applied at the commencement to the limb; and although the patient thought they did harm, they would, most likely, had they been longer employed, conjointly with rest, have effected a cure in this, the early stage of the disease. It is, however, obvious, that the stimulating ointment, of whatever nature it may have been, was highly injurious, as great increase and extension of the vesicular eruption, and, consequently, of the inflammation, immediately followed its use. Indeed, it does not appear, from the history of the case, that the disease was eczema at the commencement. It appears rather to have been erythema, or slight erysipelas, and was converted into eczema by the injudicious employment of heating and stimulating ointments; and which are always injurious in this stage of the disease, and more especially when the inflammation occupies the entire substance of the cutis, and, at the same time, a large extent of surface.

When the case came under our observation, the elementary character of the eruption was well marked, viz., numerous vesicles scattered over a highly inflamed surface, accompanied by a serous exudation, some of which had become dried into thin, laminated scurf. These appearances served at once to establish the diagnosis. It differed

from erythema and erysipelas by the presence of the small vesicles, and would have been distinguished from psoriasis inveterata, which is often accompanied by much redness, even had the vesicles been absent, by the serous exudation. We had, therefore, no doubt on this head, nor as to the means of treatment to be employed. As the pulse was full and strong, as there was a considerable degree of abdominal congestion, perhaps partly dependent upon the period of life at which the catamenia are about to cease, venesection was ordered to twelve ounces; a draught, composed of two drachms of the sulphate of magnesia, fifteen minims of dilute sulphuric acid, in an ounce and a half of water, three times daily; and a lotion of the subacetate of lead to be applied constantly to the leg; the patient to remain quiet in bed, and to be kept on low diet.

The heat, irritation, and itching of the limb were immediately and considerably relieved by the bleeding. Four days after, it is stated, that the local symptoms are much improved; the swelling and redness are diminished; the skin is less tense; the vesicles on the general surface have degenerated into scurfy films, which are now being shed. The bowels are regular; the tongue clean; appetite good. She was now put on middle diet; and, as the bowels had been very freely acted upon by the mixture, the sulphate of magnesia was reduced to one drachm. Some days after the mixture was altogether omitted, from its having occasioned purging, followed by some weakness; and, as the patient complained of much acidity and some thirst, she was ordered a draught, composed of ten minims of the liquor potassæ, and four minims of the dilute hydrocyanic acid, in ten drachms of water; to be taken three times in the course of the day.

The local, cooling, and sedative treatment was continued up to the 28th, that is to say, for two weeks; but the improvement had not advanced much for some days previously. This was now the period for adopting with success the stimulating plan of treatment; the swelling and tension had considerably diminished; the heat and itching were also but slight; and the redness had assumed, over the greater part of the leg, a purple, or, I may say, a cold-looking colour. I, therefore, decided on using a solution of the nitrate of silver, of the strength of fifteen grains to the ounce of distilled water. This was applied to the upper part of the leg, including about three inches of the skin in breadth all round, and to be used in the same manner, after an interval of two or three days, to the same extent of surface each time, on the remainder of the leg.

Four days after the first application, the report says that the leg is much softer to the touch, and the redness disappears much more readily on pressure. Four days after, the 4th of June, it is stated that the local symptoms are all much relieved where the solution has been applied; on the 8th, that the leg is softer and less tense, and begins to assume the natural appearance, as far down as the last application of the nitrate of silver; and on the 11th, that it is in all respects better. The solution was continued with the same favourable result over the whole of the leg. Last week the patient had walked about the ward, too soon, it would appear, for the leg was somewhat swollen on the following day, and accompanied by an increase of the redness, especially about the ankle and foot. This has been subdued by the application of the lotion, and a bandage is to be worn from the toes up to the knees, to prevent a similar occurrence, and to afford a support to the limb, which is still weak. After omitting the saline purgative, the bowels were kept free by the occasional use of the compound extract of colocynth and blue pill. The diet of the patient was gradually increased from low to full diet. She may now be considered convalescent, and may probably leave the hospital in the course of a week.

The second case of eczema is one of considerble severity from its extent, and the length of time it has existed. The patient, Isaac Lansdowne, 49 years of age, was admitted the 6th of this month, (June.) He is of a florid complexion, slight conformation, with distortion of the lower extremities; a porter, single, and of intemperate habits. Previous health good. Four or five years ago had a vesicular eruption of the legs, attended with redness, great heat, itching, and a discharge of a watery-looking fluid. He states that he had at the same time erysipelas of the face. The present affection of the legs began between four and five months ago. It commenced, as the former, with an eruption of vesicles, accompanied with redness, heat, itching, and tension of the skin, first on the right, and soon after on the left leg.

Present Symptoms.—Both legs, from the feet nearly to the knees, are of a bright, deep red colour, glistening, and moist all over, from the continual oozing of a serous fluid from innumerable small abrasions of the cutis. Here and there, particularly at the margin of the redness, are seen the remains of a few vesicles, and also of bullæ, recognisable by the presence of circular portions of partially detached cuticle. There is a constant sensation of heat, itchiness, and tension, and great tenderness on pressure. There is no marked disturbance of the general health, but the pulse is hard and frequent; appetite good; bowels confined.

The diagnosis of this case is so conspicuous, from the description of the eruption, as to require from me no additional observations. Neither at the commencement, nor at the period at which we first saw it, could it have been taken for any other disease than eczema.

The irregular habits of this patient seemed to have predisposed him to attacks of the disease. It was the second time the legs were affected. Yet his general health was good. The treatment, therefore, has been nearly the same as in the preceding case, viz., at first antiphlogistic, and afterwards stimulating. Eight ounces of blood were taken from the arm, and the lead lotion was constantly applied, until the swelling,

heat, tension, and itching subsided. We then employed the nitrate of silver lotion, six grains to an ounce of water, which was followed by a very considerable improvement. Hoping to effect a more speedy cure, the nitrate of silver was increased to fifteen grains, but this was too strong, for it was followed by tumefaction, the return of the heat and itching, and a discharge of serous fluid. We, therefore, laid aside the lotion, and have several times applied leeches to both legs, which have produced a highly beneficial change. We shall return again to the use of the lotion, but instead of applying it to the whole surface at once, we shall apply it, as in the former case, to small portions of each leg at a time.

We do not, I believe, possess any precise test for regulating the employment of the nitrate of silver in such cases. Generally speaking, it should not be employed until the heat and tension have been much subdued, and the redness has assumed a dull purple tinge, and more especially if the disease occupies an extensive surface. When the disease is limited to a small extent of surface, we may, even in the early and acute stage, employ this remedy freely and fearlessly, and with the greatest success.

There is one circumstance which may retard the cure in this case, viz., the thickening and induration of the subcutaneous cellular tissue, in several parts of both limbs, but particularly the right limb. Compression, by means of bandaging, will, probably, be the most efficacious means we can employ for their removal.

Having occupied the hour with these cases, I shall defer the consideration of the case of psoriasis guttata till another opportunity.—*London Lancet.*

Formation of an artificial Anus, by opening the descending Colon without penetrating the Peritoneal Cavity. By M. Amussat.—A lady, in Paris, æt. 48, long subject to obstinate constipation, sometimes preceded by hæmorrhage from the rectum, had vague pains in the pelvis and the lumbar region. Nothing, however, could be discovered further than a slight affection of the uterus, polypous excrescences of the urethra, and an old crural hernia on the right side.

She enjoyed good health for some time in the country, but on the 13th of May last returned to Paris, having suffered for eight days from obstinate constipation. On the 29th, M. Amussat was called in, the constipation still continuing. The rectum was found completely empty; but there was an obstacle above it, probably from a tumour in the pelvis, which no injections, nor any other mechanical means, could overcome. On the 2d of June, the constipation having existed twenty-four days, the tympanitis increasing, and the patient suffering intolerable pain, and earnestly requesting an operation, it was decided on, and performed with the assistance of MM. Breschet, Recamier, &c.

The patient being laid on her face, a transverse incision was made over a prominence which was distinctly visible on the left flank, two fingers' breadths above the crest of the ilium, and extending from the outer edge of the sacro-lumbalis to the middle of the crest of the ilium. The several layers of muscle and fascia were divided till the adipose tissue immediately covering the intestine was exposed; this was then cut through, and two threads were passed through the walls of the intestine, at each end of the wound, to retain it and prevent it from collapsing. Having clearly exposed the colon, of which a large space was uncovered by peritoneum, a fine trocar was plunged into its most prominent and distended part, and gases and fluid fæcal matter escaped through the canula. Immediate ease followed. A probe-pointed bistoury was passed in by the side of the canula; and when the aperture in the intestine was increased in both directions, gas and fæces flowed out in abundance. The patient expressed the greatest relief, and her countenance lost all its anxious expression, and its livid hue. The intestine was washed out with injections, and the edges of the opening in it were attached to those of the wound in the abdominal walls by four sutures.

The consequences of the operation were in no respect unfavourable. Sixteen days after it the patient was perfectly well, and had returned to her usual habits, and every thing induced her attendants to hope that, as far as the tumour in the pelvis, from which the intestinal obstruction arose, would permit, her recovery would be permanent.—*London Medical Gazette, from Comptes-Rendus, Juin* 17, 1839.

Discovery of Muscles which rotate the Dorsal Vertebræ, (rotatores dorsi.) in Men and Mammalia. By Prof. Theil, of Bern.—The rotatores dorsi are muscular fasciculi situated beneath the multifidus spinæ, and separated from its fasciculi by cellular tissue. They are found only in the dorsal portion of the spine, and are usually eleven in number on each side. They arise from the transverse processes of the dorsal vertebræ, from the second to the eleventh, and each is attached by fibres running transversely inwards, to the arch of the vertebræ next above that from which it arises. Each muscle, covered by the multifidus spinæ, is fixed by short tendinous fibres to the upper edge and posterior surface of the transverse process, and by fleshy fibres to the lower edge, and in part to the posterior surface of the arch, up to the base of the spinous process. The muscles have not all the same size; the lowest are largest, except the eleventh, which is small. The uppermost generally passes from the transverse process of the second dorsal vertebra, over the first, to the arch of the seventh cervical.

Professor Theil has discovered perfectly analogous muscles in the dorsal portions of the spine in several species of quadrumana, carnivora, and rodentia.—*Ibid., from Müller's Archiv.* Heft ii. 1839.